

The Victorians

Brunel: The 'Shield' - The Thames Tunnel

Written by John Tuckey

BEAMISH: The Thames in London. Who would try to build a tunnel under it? Surely only madmen. And I did think the two of them were mad. The Brunels: Marc the father, born in France...and Isambard Kingdom – now there's a name - the son. It was 1825 and they wanted to dig a tunnel under the Thames in east London. But the earth around the river was wet of course, a great mass of mud. How could you dig a tunnel through that?

They'd already started when they asked me to join them. I'm Richard Beamish – a local engineer..

ISAMBARD: Ah, Beamish! Isambard Kingdom Brunel. And my father...Marc...

MARC: Good day, sir!

BEAMISH: You do know no one has ever dug a tunnel under a river?

MARC: Of course.

BEAMISH: And, two teams have tried here in London, and have failed?

ISAMBARD: But they didn't have my father's shield.

BEAMISH: 'Shield'?





- ISAMBARD: Yes. That thing!
- BEAMISH: Looks to me like a huge disc of iron.
- ISAMBARD: Well that's what it is Mr Beamish. The point is it's the same height and width as the tunnel.
- BEAMISH: I don't see.
- ISAMBARD: It's pushed against the end of the tunnel wall there. See those small doors on the shield? Each man opens his door, and digs out a little area of soil behind it, while the shield holds the rest of the soil in place. When all the men have dug out their section, the whole shield moves forward a few inches.
- BEAMISH: Uh, huh.
- ISAMBARD: Then the men immediately work behind them to brick up the walls. And that's your tunnel!
- BEAMISH: To be fair to the two madmen, the shield did work and, slowly, the tunnel moved on under the Thames. But the water was a big problem. How can I put this? London is a huge city, and it has a lot of toilets. And, all those toilets emptied into the Thames. It stank. But, in fact, it was worse than that...
- WORKMAN 2: Mr Beamish! Mr Brunel!
- BEAMISH: Another one?
- WORKMAN 2: Yes, sir.
- BEAMISH: Is he still alive?





- WORKMAN 2: Yes.
- BEAMISH: Let's get him out to the air. Help me lift him.
- ISAMBARD: Another man's collapsed?
- WORKMAN 2: You've got to do something, Mr Brunel.
- BEAMISH: Thirty or forty men have collapsed Mr Brunel, and, what, seven have already died! Just from breathing this stinking, poisonous air. We need another shaft for fresh air.
- ISAMBARD: But our financial backers won't pay for that.
- BEAMISH: Then perhaps those money men should try working down here for a few days.
- BEAMISH: That poisonous air was bad enough, but there was also the other problem of the water constantly coming in to the tunnel. We had a big steam pump which sucked the water out, but the problem got worse and worse. And then - disaster. It happened one morning as I was talking to the father, Marc Brunel, while Isambard was down inside the tunnel. At the start of the tunnel, there was a shaft which went straight down, before the tunnel itself turned to go under the river, and we were standing at the top.
- So, Mr Brunel, what's next once you've finished here?
- MARC: With this shield, we can dig a tunnel anywhere.
- BEAMISH: You know a few weeks ago someone dug out an eel in the tunnel?





- MARC: An 'eel'?
- BEAMISH: A kind of fish. We're practically digging through the river itself.
- MARC: Where is this wind coming from?
- BEAMISH: Its the water's forcing the air out of the tunnel!
- WORKMAN 2: Flood! Run for it!
- WORKMAN 2: The tunnel is filling up
- MARC: The men!
- BEAMISH: They won't have a chance.
- Suddenly a wall of water surged up the shaft and gushed around us. And there – miraculously – was a figure, bobbing on the surface...
- BEAMISH: Grab him before the water falls back!
- WORKMAN 2: I've got him...
- MARC: It's Isambard!
- BEAMISH: And he's still alive.

Isambard was badly hurt, but he had survived. Others were not so fortunate – and many men died that morning. It was seven years before work could start again on the tunnel and eventually it was finished. As for Isambard...he never returned to work on the Thames Tunnel after that flood. Once he'd recovered he went on to other – even greater - challenges.

